

## Claims

*Sub al*  
1. An alkali-free aluminoborosilicate glass comprising by weight % based on oxide,

SiO <sub>2</sub>	> 58 - 65,
B <sub>2</sub> O <sub>3</sub>	> 6 - 11.5,
Al <sub>2</sub> O <sub>3</sub>	> 14 - 20,
MgO	> 3 - 6,
CaO	> 4.5 - 10,
SrO	0 - 1.5,
BaO	> 1.5 - 6,
with SrO + BaO	> 3, and
ZnO	0 - < 2.

2. An alkali-free aluminoborosilicate glass comprising by weight % based on oxide,

SiO <sub>2</sub>	> 58 - 65,
B <sub>2</sub> O <sub>3</sub>	> 6 - 11.5,
Al <sub>2</sub> O <sub>3</sub>	> 14 - 20,
MgO	> 3 - 6,
CaO	> 4.5 - 10,
SrO	0 - < 4,
BaO	> 2.5 - 6,
with SrO + BaO	> 3, and
ZnO	0 - 0.5.

3. An aluminoborosilicate glass according to Claim 1, comprising at most 5% by weight MgO based on oxide.

4. An aluminoborosilicate glass according to Claim 1, comprising at least 60% by weight SiO<sub>2</sub> based on oxide.

5. An aluminoborosilicate glass according to Claim 1, comprising more than 11% by weight MgO, CaO, SrO and BaO together based on oxide.

6. An aluminoborosilicate glass according to Claim 1, further comprising by weight % based on oxide,

ZrO <sub>2</sub>	0 - 2,
TiO <sub>2</sub>	0 - 2,
With ZrO <sub>2</sub> + TiO <sub>2</sub>	0 - 2,
As <sub>2</sub> O <sub>3</sub>	0 - 1.5,
Sb <sub>2</sub> O <sub>3</sub>	0 - 1.5,
SnO <sub>2</sub>	0 - 1.5,
CeO <sub>2</sub>	0 - 1.5,
Cl <sup>-</sup>	0 - 1.5,
F <sup>-</sup>	0 - 1.5,
SO <sub>4</sub> <sup>2-</sup>	0 - 1.5, and
Wherein As <sub>2</sub> O <sub>3</sub> + Sb <sub>2</sub> O <sub>3</sub> + SnO <sub>2</sub> + CeO <sub>2</sub> + Cl <sup>-</sup> + F <sup>-</sup> + SO <sub>4</sub> <sup>2-</sup>	0 - 1.5.

7. An aluminoborosilicate glass according to Claim 1, which is free or essentially free of arsenic oxide and antimony oxide.

8. An aluminoborosilicate glass according to claim 1, having a ratio of MgO/CaO by weight of less than 1.

9. An aluminoborosilicate glass according to claim 1, having a ratio of MgO/CaO by weight of less than 0.7.

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as*  
10. An aluminoborosilicate glass according to claim 1, comprising at least 5% by weight CaO based on oxide.

11. An aluminoborosilicate glass according to claim 1, comprising > 7 to ≤ 11% by weight B<sub>2</sub>O<sub>3</sub> based on oxide.

12. An aluminoborosilicate glass according to

claim 1, comprising  $> 2.5\%$  to  $\leq 5\%$  by weight BaO based on oxide.

13. An aluminoborosilicate glass according to claim 1, comprising more than 3% by weight SrO and BaO together based on oxide.

14. An aluminoborosilicate glass according to claim 1, comprising up to 0.5% by weight ZnO based on oxide.

15. An aluminoborosilicate glass according to claim 1, comprising up to 1.5% by weight ZnO based on oxide.

16. An aluminoborosilicate glass according to claim 1, further comprising independently of one another at most 0.5%  $ZrO_2$  and  $TiO_2$  each by weight based on oxide.

17. An aluminoborosilicate glass according to Claim 2, comprising at most 5% by weight MgO based on oxide.

18. An aluminoborosilicate glass according to Claim 2, comprising at least 60% by weight  $SiO_2$  based on oxide.

19. An aluminoborosilicate glass according to Claim 2, comprising more than 11% by weight based on oxide MgO, CaO, SrO and BaO is greater together.

20. An aluminoborosilicate glass according to Claim 2, further comprising by weight % based on oxide,

$ZrO_2$	0 - 2,
$TiO_2$	0 - 2,
with $ZrO_2 + TiO_2$	0 - 2,

As <sub>2</sub> O <sub>3</sub>	0 - 1.5,
Sb <sub>2</sub> O <sub>3</sub>	0 - 1.5,
SnO <sub>2</sub>	0 - 1.5,
CeO <sub>2</sub>	0 - 1.5,
Cl <sup>-</sup>	0 - 1.5,
F <sup>-</sup>	0 - 1.5,
SO <sub>4</sub> <sup>2-</sup>	0 - 1.5, and
Wherein As <sub>2</sub> O <sub>3</sub> + Sb <sub>2</sub> O <sub>3</sub> + SnO <sub>2</sub> + CeO <sub>2</sub> + Cl <sup>-</sup> + F <sup>-</sup> + SO <sub>4</sub> <sup>2-</sup>	0 - 1.5.

21. An aluminoborosilicate glass according to Claim 2, which is free or essentially free of arsenic oxide and antimony oxide.

22. An aluminoborosilicate glass according to claim 2, having a ratio of MgO/CaO by weight of less than 1.

23. An aluminoborosilicate glass according to claim 2, having a ratio of MgO/CaO by weight of less than 0.7.

24. An aluminoborosilicate glass according to claim 2, comprising at least 5% by weight CaO based on oxide.

25. An aluminoborosilicate glass according to claim 2, comprising > 7 to ≤ 11% by weight B<sub>2</sub>O<sub>3</sub> based on oxide.

26. An aluminoborosilicate glass according to claim 2, comprising > 2.5% to ≤ 5% by weight BaO based on oxide.

27. An aluminoborosilicate glass according to claim 2, comprising more than 3% by weight SrO and BaO together based on oxide.

28. An aluminoborosilicate glass according to claim 2, comprising up to 0.5% by weight ZnO based on oxide.

29. An aluminoborosilicate glass according to claim 2, comprising up to 1.5% by weight ZnO based on oxide.

30. An aluminoborosilicate glass according to claim 2, further comprising independently of one another at most 0.5% ZrO<sub>2</sub> and TiO<sub>2</sub> each by weight based on oxide.

31. An aluminosilicate glass according to claim 2, comprising up to 3% by weight SrO based on oxide.

32. A substrate glass in thin-film photovoltaics or a display comprising an alkali-free aluminoborosilicate glass according to claim 1.

33. A TFT display or a thin-film solar cell comprising an alkali-free aluminoborosilicate glass according to claim 1.

34. A substrate glass in thin-film photovoltaics or a display comprising an alkali-free aluminoborosilicate glass according to claim 2.

35. A TFT display or a thin-film solar cell comprising an alkali-free aluminoborosilicate glass according to claim 2.

*See* 36. An alkali-free aluminoborosilicate glass comprising less than 1500 ppm alkali metal oxides and comprising by weight % based on oxide,

SiO<sub>2</sub>

> 58 - 65,

B <sub>2</sub> O <sub>3</sub>	> 6 - 11.5,
Al <sub>2</sub> O <sub>3</sub>	> 14 - 20,
MgO	> 3 - 6,
CaO	> 4.5 - 10,
SrO	0 - 1.5,
BaO	> 1.5 - 6,
with SrO + BaO	> 3, and
ZnO	0 - < 2.

37. An alkali-free aluminoborosilicate glass comprising less than 1500 ppm alkali metal oxides and comprising by weight % based on oxide,

SiO <sub>2</sub>	> 58 - 65,
B <sub>2</sub> O <sub>3</sub>	> 6 - 11.5,
Al <sub>2</sub> O <sub>3</sub>	> 14 - 20,
MgO	> 3 - 6,
CaO	> 4.5 - 10,
SrO	0 - < 4,
BaO	> 2.5 - 6,
with SrO + BaO	> 3, and
ZnO	0 - 0.5.

Add  
As

Add  
B<sub>2</sub>